

AMPHIBIA: CAUDATA: PLETHODONTIDAE

NOTOTRITON LIGNICOLA

Catalogue of American Amphibians and Reptiles.

McCranie, J.R. and L.D. Wilson. 2003. *Nototriton lignicola*.

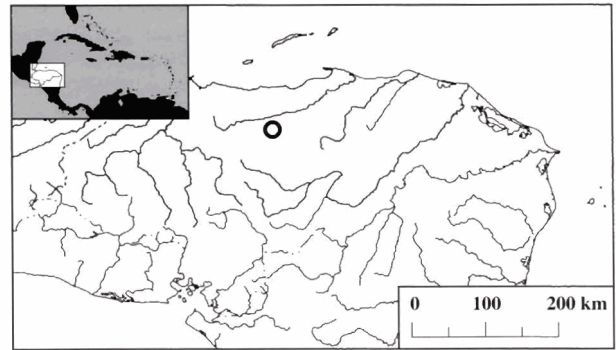
Nototriton lignicola McCranie and Wilson

Nototriton lignicola McCranie and Wilson 1997:369. Type locality, "Cerro de Enmedio (15°06'N, 86°44'W) along the trail above the Monte Escondido campground, Parque Nacional La Muralla, 1780 m elev., Departamento de Olancho, Honduras." Holotype, National Museum of Natural History, Washington (USNM) 497539, an adult male, collected by D. Almendarez, J.R. McCranie, and L.D. Wilson, 30 July 1996 (examined by authors).

Nototriton "barbouri": Espinal et al. 2001:105.

• **CONTENT.** No subspecies are recognized.

• **DEFINITION.** *Nototriton lignicola* is a diminutive salamander (SVL 28.3–33.9 mm, $\bar{x} = 31.1 \pm 2.2$ mm in seven males; 31.0–32.8 mm, $\bar{x} = 31.7 \pm 1.0$ mm in three females) with a short and narrow head (head length/SVL 0.180–0.194, $\bar{x} = 0.186 \pm 0.005$ in males; 0.177–0.183, $\bar{x} = 0.181 \pm 0.003$ in females; head width/SVL 0.104–0.118, $\bar{x} = 0.113 \pm 0.004$ in males; 0.103–0.112, $\bar{x} = 0.108 \pm 0.005$ in females). The snout is broadly rounded to nearly truncate in dorsal aspect and broadly rounded to nearly vertical in lateral profile. The nostril openings are small (nostril length/SVL 0.006–0.009, $\bar{x} = 0.007 \pm 0.001$ in males; 0.006 in all three females). The labial protuberances are well developed in males and weakly developed in females. Males have a rather indistinct, oval-shaped mental gland cluster. The eyes are somewhat protuberant and narrowly visible to not visible beyond the margin of the jaw when viewed from below in both sexes. A shallow postorbital groove extends posteriorly from the eye before turning sharply ventrally to connect with the gular fold, and another groove proceeds sharply ventrally just posterior to the lower jaw. A sublingual fold is present. The maxillary teeth number 46–50 ($\bar{x} = 48.3 \pm 1.6$, $N = 6$) in males, 52–54 ($\bar{x} = 53.3 \pm 1.2$) in females, and extend posteriorly to a level beyond the center of the orbit. The vomerine teeth number 16–20 ($\bar{x} = 18.3 \pm 1.5$, $N = 6$) in males, 16–24 ($\bar{x} = 20.0 \pm 4.0$) in females, and are in a long, single arched series that extends laterally to a level well beyond the outer edge of the choanae. The premaxillary teeth number 4–5 ($\bar{x} = 4.4 \pm 0.5$) in males and 6 in all three females. The premaxillary teeth are slightly enlarged and located just posterior to the lip and are offset slightly from the maxillary series in males. The premaxillary teeth are not enlarged and are located posterior to the lip and in line with the maxillary series in females. The costal grooves number 13. The tail is moderately long (tail length/SVL 0.898–1.059, $\bar{x} = 0.987 \pm 0.065$, $N = 6$ in males; 0.840–1.006, $\bar{x} = 0.935 \pm 0.086$ in females) and is nearly rectangular in cross section anteriorly, but becomes ovoid for the distal one-third of its length. The tail is slightly constricted basally. The limbs are slender and short (forelimb length/SVL 0.151–0.160, $\bar{x} = 0.156 \pm 0.004$ in males; 0.137–0.151, $\bar{x} = 0.144 \pm 0.007$ in females; hind limb length/SVL 0.163–0.181, $\bar{x} = 0.171 \pm 0.007$ in males; 0.158–0.163, $\bar{x} = 0.160 \pm 0.003$ in females). The adpressed limb interval ranges from 4–5 costal folds in males and five costal folds in females. The feet are tiny (hind foot width/SVL 0.029–0.040, $\bar{x} = 0.035 \pm 0.004$ in males; 0.032–0.037, $\bar{x} = 0.034 \pm 0.003$ in females). The digits are differentiated, with about one segment of Toe III between Toes II–III on the forelimbs free of webbing and about two segments of Toe III between Toes III–IV on the hind limbs free of webbing. The toe tips are bluntly rounded and have well-developed



MAP. Distribution of *Nototriton lignicola*: the circle denotes the type locality; all other known localities are from within 0.5 km of the locality for the holotype.



subdigital pads. The relative length of the toes on the forelimbs is $I < IV < II < III$, whereas that on the hind limbs is $I < V < II < IV < III$. The postiliac gland cluster is fairly distinct to indistinct. Males have cloacal papillae and females have shallow cloacal folds (McCranie and Wilson 2002).

McCranie and Wilson (1997), using Smithe (1975–1981) for color names (capitalized) and color codes (in parentheses), described the color in life of the adult male holotype (USNM 497539) as follows: "all dorsal surfaces Burnt Umber (22) with Buff (24) and white flecking visible to unaided eye; all ventral surfaces Hair Brown (119A) with scattered white flecks visible to unaided eye; iris rust red with copper spots." Color in life of an adult male paratype (USNM 497540) also was described as follows: "all dorsal surfaces Burnt Umber (22) except middorsum of body slightly paler; all dorsal surfaces with scattered white flecks visible to unaided eye; all ventral surfaces Hair Brown (119A); iris copper."

Color in alcohol was described as follows by McCranie and Wilson (1997): "all dorsal surfaces medium brown to dark brown with numerous pale colored iridophores, iridophores frequently joined to one another; ventral and subcaudal surfaces paler than dorsal surfaces as result of more numerous joined pale iridophores."

• **DIAGNOSIS.** *Nototriton lignicola* is a member of the *N. barbouri* species group, along with *N. barbouri*, *N. brodiei*, *N. limnospectator*, and *N. stuarti* (see García-París and Wake 2000, Wake and Campbell 2000). *Nototriton barbouri* can be distinguished by having a larger size (males to 38 mm SVL, females to 40 mm SVL) and a longer tail (mean tail length/SVL 1.295 in males, 1.088 in females). *Nototriton brodiei* differs in having a longer tail (tail length/SVL 1.42–1.44; Campbell and Smith 1998). *Nototriton limnospectator* differs in having smaller nostril

openings (mean nostril length/SVL 0.003), a larger size (males and females to 38 mm SVL), longer tails (mean tail length/SVL 1.271 in males, 1.042 in females), and by usually having a narrow cream to silver stripe separating the dorsal and ventral colorations. *Nototriton stuarti* has a broader head (head width/SVL 0.14), fewer maxillary teeth (36), and a larger nostril (nostril length/SVL 0.012; Wake and Campbell 2000). García-París and Wake (2000) presented molecular data that supported species recognition of four taxa included in the *N. barbouri* group (*N. stuarti* was subsequently described).

• **DESCRIPTIONS.** Detailed descriptions of external morphology are in McCranie and Wilson (1997, 2002). McCranie et al. (1998) described the osteology of the anterior cranium.

• **ILLUSTRATIONS.** A color photograph of an adult is in McCranie and Wilson (2002) and a black and white photograph of the same specimen is in McCranie and Wilson (1997). A line drawing showing the anterior cranial elements is in McCranie et al. (1998).

• **DISTRIBUTION.** Known only from the vicinity of the type locality in northwestern Departamento de Olancho in north-central Honduras. Known elevational range of occurrence is 1760–1780 m in primary cloud forest (Lower Montane Wet Forest formation of Holdridge 1967).

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** What little is known about the natural history of this species was summarized by McCranie and Wilson (1997, 2002). McCranie and Wilson (2002) also discussed its distribution by physiographic and ecophysiographic regions in Honduras. Espinal et al. (2001) discussed its ecological distribution in Parque Nacional La Muralla and Wilson and McCranie (2003b) its ecological distribution in the Honduran cloud forests. Wilson and McCranie (2003c) considered the species to be an “indicator species” used to measure environmental stability in Honduras. McCranie and Wilson (2002) and Wilson and McCranie (2003a) considered the known populations to be highly vulnerable. García-París and Wake (2000) studied mtDNA and presented a phylogenetic analysis of its relationships. The species was included in diagnoses of new species of *Nototriton* by Campbell and Smith (1998), McCranie et al. (1998), Wake and Campbell (2000), and Köhler (2002).

• **ETYMOLOGY.** The name *lignicola* is formed from the Latin *lignum* (wood) and *cola* (an inhabitant), in reference to all specimens having been collected inside rotten logs. The name is used as a noun in apposition.

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